SPRING 1997

Natural OUTLOOK

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Air Control

EPA's Proposed Air Standards Cloud Forecast for Texas Economy

Early this year, the TNRCC held nine public meetings across the state to hear what the public had to say about the EPA's proposed changes to the national ambient air quality standards (NAAQS).

There were few middle-of-the-road remarks among the more than 2,200 comments received on the proposals that would tighten the ozone standard and establish the first-ever standard for fine particulate matter.

Public debate began to heat up in November 1996, when the EPA first announced proposed revisions to the air standards. The current ozone standard, last revised in 1979, is set at 0.12 parts per million (ppm) for one hour, which cannot be exceeded more than three times in a three-year period. The EPA now proposes an eight-hour standard set at 0.08 ppm. An area would go out of compliance when the third highest daily maximum eight-hour concentration, averaged over three years, reached above 0.08 ppm.

EPA also proposed to revise the current particulate matter standards by adding a new annual PM2.5 level for particles as small as 2.5 microns in diameter. For scale, it would take about 30,000 particles that size to dot an "i." The proposal calls for the annual PM2.5 to be set at 15 micrograms per cubic meter and a new 24-hour PM2.5 standard to be set at 50 micrograms per cubic meter (please see sidebar, page 9).

EPA Proposals: Sky's the Limit

With its air proposals, EPA has sought to establish health-based standards without consideration of costs—an approach that is mandated by both the Clean Air Act and Congress, according to Jane Saginaw, EPA Region 6 Administrator.

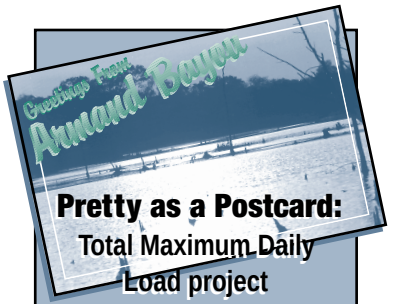
She emphasized that this is a two-stage process, and that "we are still in the proposal stage, which involves review of the scientific data and outreach for public comments."

The next stage of the process begins in July, when EPA adopts a health-based standard, she said. At that point the agency will sit down with everyone who has an interest and collaboratively develop a plan for commonsense, cost-effective implementation.

"At this point, no one knows what the final costs will be," Saginaw said. "But we do

continued on page 8

> **"If more research is needed on ozone, we should do that now instead of prematurely altering a standard which is working in Texas."**
>
> Barry McBee, TNRCC Chairman



Pretty as a Postcard: Total Maximum Daily Load project preserves one of Texas' precious bayous while creating a model for future watershed management.
page 3

Texas Clout on Capitol Hill

The 105th Congress finds Texas with less seniority than in the 104th, but in good committee position on the environment. Texas is in particularly good shape to have an impact on issues directly affecting the state, such as the EPA's proposed new standards for air quality.

The fact that the proposed ozone and particulate matter standards may increase the number of nonattainment areas in the state from four to nine has already brought the Texas delegation into the heart of the debate.

In the House's key environmental committee, Commerce, Rep. Joe Barton (R-TX), chairman of the Oversight and Investigations Subcommittee, is holding hearings on the EPA's process for arriving at the new standards and the substantive arguments for and against the proposal.

A member of Barton's staff noted that the standards, if implemented, would have a significant impact on the Texas economy. He pointed out that the Small Business Administration has identified this proposal as potentially the most costly rule for small business in the last 10 years. As the committee of primary jurisdiction over the Clean Air Act, the staff member said, "We believe we have the responsibility to review the science, cost, and policy underlying the proposals."

Ralph Hall and Gene Green (both D-TX) sit with Barton on the Oversight and Investigations Subcommittee. All three Texans are members of the Subcommittee on Health and Environment, where legislation to alter the standards or change EPA's method of implementing them would likely originate in the House.

Congress will also have the opportunity to debate the air quality standards during the appropriations process. Sen. Kay Bailey Hutchison (R) joins the Appropriations Committee this Congress—from Texas' perspective, a compensation for the loss of Sen. Phil Gramm (R), who moved from Appropriations to Finance during the 104th. Texas is also well represented in House Appropriations by Republican Reps. Tom DeLay and Henry Bonilla and by Democrat Chet Edwards. Rep. DeLay, already in a key position as majority whip, sits on the Appropriations Subcommittee with jurisdiction over EPA's budget, and questioned the federal agency publicly at budget hearings in April on the resources that went into the air standards development and on the process of implementation.

Unfortunately, no Texan sits on the influential Senate Committee on Environment and Public Works. Still, the delegation remains a power to be reckoned with on such environmental matters as environmental audits and Superfund reform. Texas' long history of getting its opinions heard in Washington will be continued in the 105th Congress.

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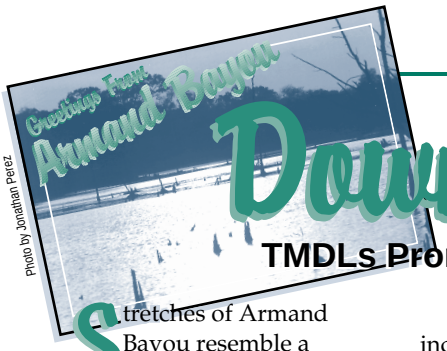

Photo by Jonathan Perez

Down on Armand Bayou

TMDLs Promise Fresh Start for Bayou and Other Priority Watersheds

Stretches of Armand Bayou resemble a picture postcard from the South. Its meandering waters nurture willows and oaks draped with Spanish moss and quivering stands of switchgrass.

A visitor observing the alligators and otters navigating the still reaches of the bayou might momentarily forget that the habitat is situated southeast of sprawling Houston in Harris County, which boasts a population of 2.8 million people.

Urban growth and industry have had a significant impact on Armand Bayou. Low levels of dissolved oxygen in the water body do not meet standards for aquatic life, and elevated levels of fecal coliform restrict contact recreation use.

"What makes this small wilderness area unusual is its proximity to a major metropolitan area," said George Regmund, director of the Armand Bayou Nature Center. "We're especially concerned about nonpoint sources of pollution such as runoff from lawns and streets."

Such concerns about the bayou are being addressed as the TNRCC launches a new, comprehensive water quality management plan for the entire watershed. Under supervision of the agency, an engineering firm will begin work this summer with the Houston-Galveston Area Council to develop a Total Maximum Daily Load (TMDL) report for the bayou.

Armand Bayou will include both a quantitative assessment of problems and contributing pollution sources and a plan outlining the actions needed to restore and protect water quality standards. Other TMDLs are currently under way in a number of segments in the Houston/Galveston area and in watersheds in the Brazos River Basin.

The Armand Bayou project will serve as a model for future TMDLs, particularly those involving contractors, in that it considers a broader base of nonpoint source pollution than previous plans implemented in Texas and provides opportunities for public participation by stakeholders in the watershed at every major step.

Litigation on TMDLs

According to the Clean Water Act, Texas and other states must identify water quality-limited rivers, creeks, or lakes needing TMDLs. An updated list must be submitted to the EPA every two years. TMDLs are to be developed for all pollutants preventing or expected to prevent attainment of water quality standards. Calculations to establish TMDLs are subject to public review.

High cost and limited resources to support projects of such magnitude have kept many states from complying with the intent of the law. To date, lawsuits have been filed by environmental and other organizations against the EPA in 25 states that are allegedly out of compliance

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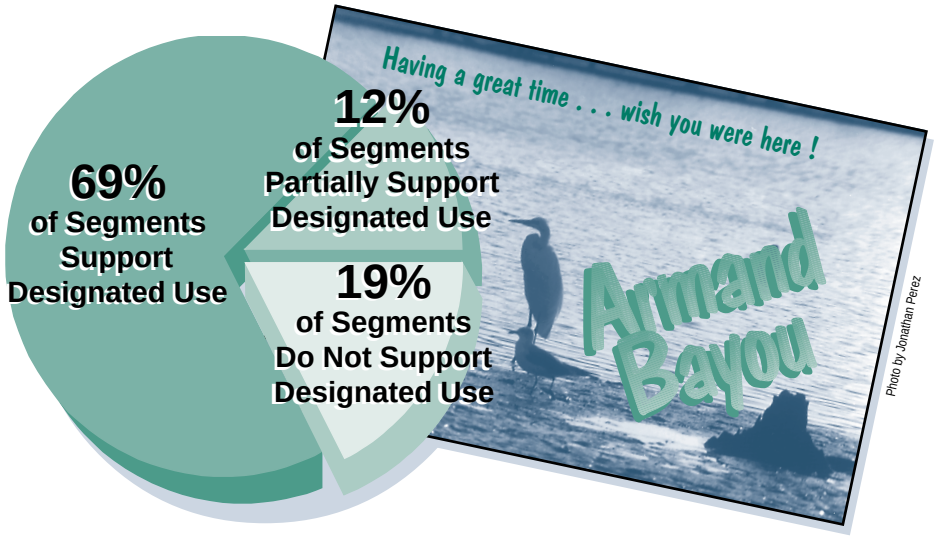


Photo by Jonathan Perez

Current Status of Texas Surface Water Bodies

Water quality standards in Texas are based on designated use categories such as fishing and swimming and on criteria such as dissolved oxygen. Corrective action to restore water quality—through plans such as TMDLs or standards revisions— is required for the 19 percent of water bodies that do not support designated uses.

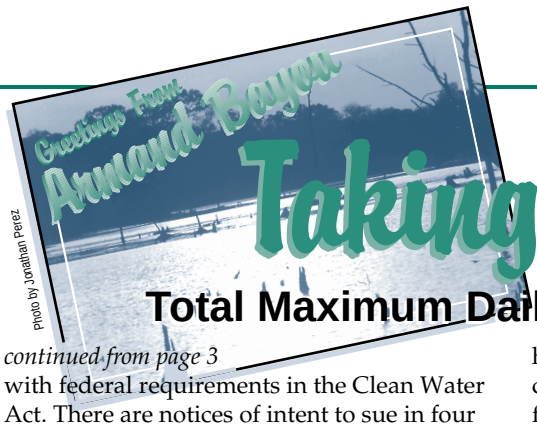


Photo by Jonathan Perez

Taking a Load Off

Total Maximum Daily Loads Offer Commonsense

continued from page 3

with federal requirements in the Clean Water Act. There are notices of intent to sue in four additional states. In EPA Region 6, suits have been filed to challenge the failure of New Mexico and Louisiana to develop TMDLs. The EPA gets sued because under the provisions of the act the federal agency has ultimate responsibility, even though states are expected to develop and implement their own TMDLs.

Texas, the only Gulf Coast state not involved in a suit on the TMDL issue, has identified 142 (out of a total 368) stream segments requiring TMDLs.

TNRCC Commissioner John Baker believes Texas was not one of the early states to be the subject of a lawsuit because the state has maintained relatively high surface water quality standards and has complied with the requirement to compile and update a prioritized list of targeted water bodies as required by the Clean Water Act.

"Part of the TNRCC's overall mission is to ensure a safe, clean, and affordable water supply for the state," Baker said. "We are committed to implementing the watershed management approach through our existing programs in accordance with state and federal requirements."

Texas nonetheless is vulnerable to being the subject of a suit because environmental groups have targeted Gulf Coast states, according to Brad Jennings, EPA Region 6 TMDL coordinator for Texas and Oklahoma. More important, "although Texas currently has a number of TMDLs in process, historically the water management approaches have focused on point sources of pollution and have not addressed nonpoint sources," Jennings said.

To its advantage, Jennings added, "Texas is ahead of the game with its watershed management approach, which some other states are just beginning to emulate. Many of these principles and techniques are applicable to TMDLs."

"We are committed to implementing the watershed management approach through our existing programs in accordance with state and federal requirements."

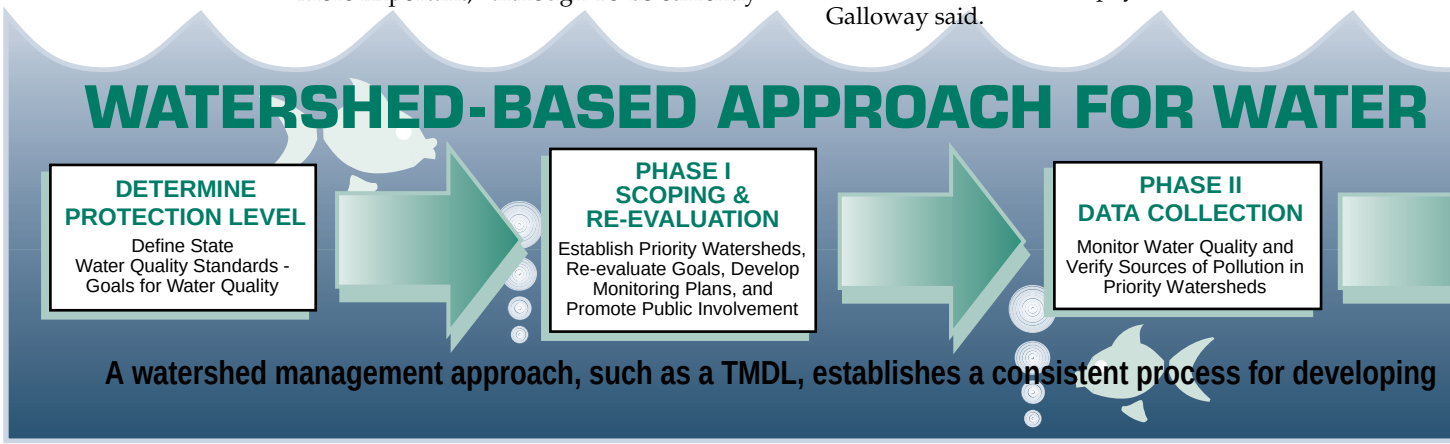
John Baker
TNRCC Commissioner

Consequences of TMDL Suits

The consequences of these suits in states such as Idaho and Georgia have raised concerns in Texas and other regions. In some cases judges have imposed tight deadlines for state agencies with limited resources to develop and implement TMDLs on hundreds of stream segments.

"Nobody has the resources to deal with this," said Erik Galloway with the Surface Water Quality Bureau in the Environment Department of New Mexico, which has 218 stream segments requiring TMDLs. According to Galloway, his state achieved a reasonable settlement of the lawsuit against it, but "some states got taken to the cleaners. They were only given five years to develop all TMDLs, whereas New Mexico has 10 years for some water bodies and 20 years to finish the complete list.

"With unrealistic time frames and insufficient resources, efforts to develop such TMDLs are a waste of taxpayer dollars," Galloway said.



Down on The Bayou

Cleanup for Waterway Contaminants

Generally, TMDLs establish target goals for the reduction of point and nonpoint sources of pollution. Where point source discharges impair a waterbody, a TMDL can result in changes to effluent limits for permit holders to achieve reduction goals established through the TMDL process. The existing permitting process fits into the fifth phase of the watershed management process (shown in chart below). With nonpoint sources, no regulatory mechanisms are available to enforce management controls, which is why cooperative agreements among federal, state, and local government agencies and stakeholders are essential for implementation. In certain cases, TMDL participants will jointly decide whether to follow a regulatory or voluntary plan.

The economic consequences of TMDLs are significant. In some instances, they can result in local controls which can affect economic activities such as construction, forestry, industry, or agriculture.

The immediate cost is also steep. A TMDL conducted on the Houston Ship Channel, for example, cost almost $240,000 and took four years to complete. At the other end of the spectrum, a TMDL for nutrients in Long Island Sound took nearly 12 years and cost approximately $19 million—not including implementation costs.

In those areas where the EPA lost lawsuits, the states have had to scramble for more resources, contract for outside help, or back out and leave it to the EPA to perform the TMDLs.

Stakeholder and Government Coalitions

Local involvement is a critical aspect of TMDLs, according to John Barrett, who was appointed the agricultural representative on the Coastal Coordination Council by Governor George W. Bush.

"A successful TMDL requires stakeholder buy-in and some measure of stakeholder control," said Barrett, a farmer from Corpus Christi. "The two national estuary programs in Texas can serve as guides for stakeholder participation in TMDLs."

In its continuing efforts to improve and protect water quality, the TNRCC has been developing coalitions, building on partnerships established through the Clean Rivers Program.

"We are bringing together other state agencies, including the General Land Office, along with representatives of the regulated community, to develop joint plans for targeted, high-risk stream segments," said Randy Wilburn, the TNRCC's director of water planning and assessment. "The TNRCC will have to rely on such coalitions of government and citizens to get the job done."

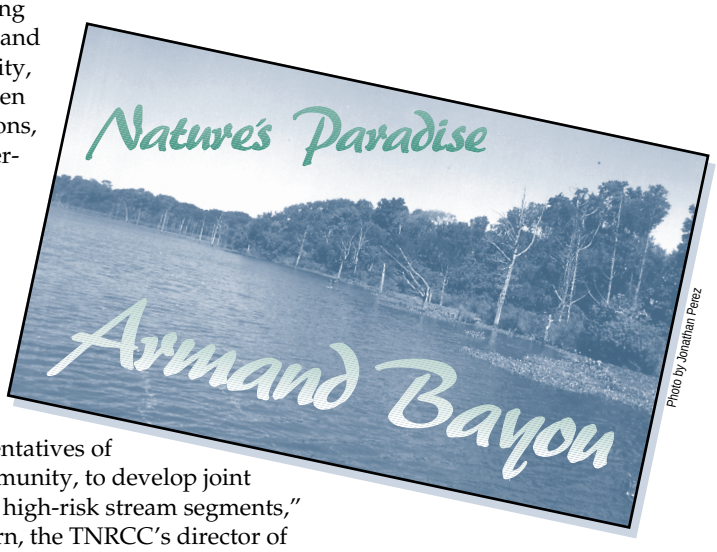
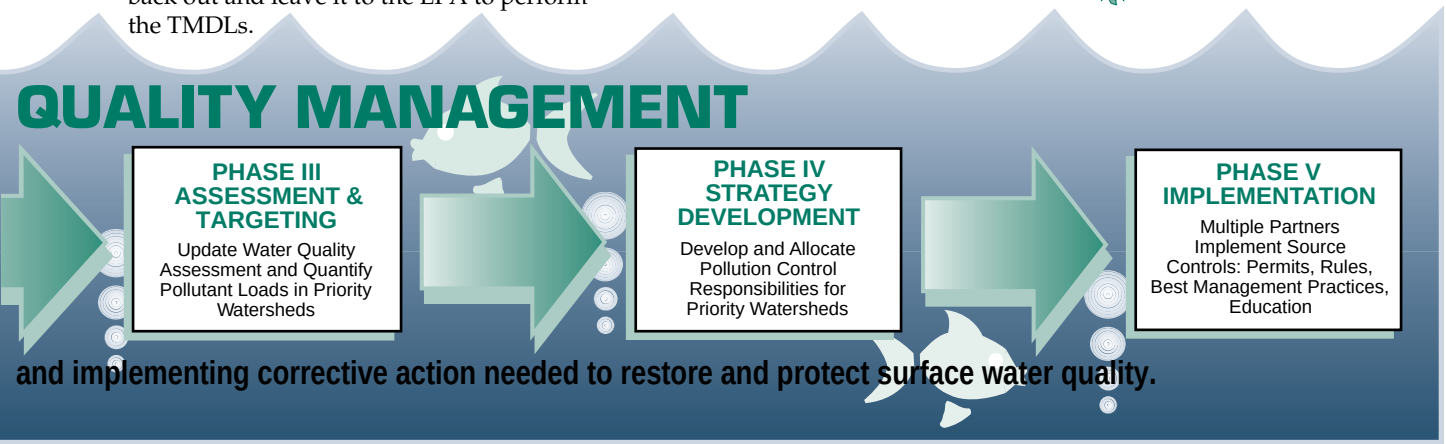


Photo by Jonathan Perez



Texas Coastal Management Program Closes Gulf in Environmental Protection

A Shore Thing

The Texas coast extends nearly 370 miles along a chain of barrier islands from Louisiana to the Mexican border. Travel and tourism in the coastal area supported 103,600 jobs and nearly $2 billion in salaries in 1993.

Texas' coastal economy—which includes such diverse activities as commercial and recreational fishing and tourism—depends on a healthy environment. Achieving a balance between the two calls for careful planning and coordinated, collaborative management of economic development.

The interdependence of coastal economy and environment is a hallmark of the new Texas Coastal Management Program (CMP), which was submitted by Gov. George W. Bush in 1995 and gained federal approval in January of this year. The program gives Texas parity with federal agencies concerning the long-term management of its Gulf Coast—including portions of 17 coastal counties, from Orange in the north to Cameron in the south. Now programs and actions by both federal and state entities must be consistent with the goals and policies of the CMP.

The program enables the TNRCC, along with several other state resource agencies such as the General Land Office and Texas Railroad Commission, to play a vital role in the coordination of policies and practices to protect the coastal environment and its economy for years to come.

Key Program Features

The CMP features four distinctive aspects that relate to project funding, permitting and coordination among participating agencies.

First, the program gives Texas access to approximately $2 million a year in federal funds to develop and protect coastal natural resource areas such as coastal barriers, flood-plain and erosion-prone areas, historic sites, dunes, beaches, reefs, wildlife management areas, and wetlands.

The CMP federal dollars earmarked for worthwhile coastal projects present opportunities for economic and environmental improvements, according to Tom Utter, assistant city manager of Corpus Christi, the nation's seventh largest seaport (in terms of tonnage).

"Any waterfront or beach development project we have in the city that meets the criteria can be funded under the new program," Utter said. Also, the CMP streamlines the process, giving the ability to go in and get consolidated review for projects. "It's all designed to simplify the tremendous number of regulations that have to do with coastal activities. The coast is by far the most regulated area in the state."

From Texas' perspective, another key feature of the CMP is that the National Oceanic and Atmospheric Administration delegated to the TNRCC those parts of the program that deal with permits for wastewater discharges, cattle feeding operations near critical areas or coastal waters, water rights, water quality, and hazardous and solid waste management. In fact, each resource management agency must be vigilant when authorizing projects or permits to make sure they do not violate the CMP by harming or destroying coastal natural resource areas.

A third critical feature of the CMP is that because no new environmental regulations will be created to administer the program, agency coordination and cooperation will be paramount to its success. Fragmenting regulatory authority among several entities can result in inconsistent policies, impede efficient management of resources, and place unnecessary burdens on regulated industries when the effective planning of compliant operations should be their goal.

Implementation of the CMP should result in a net reduction in government cost and bureaucracy because the program coordinates existing policies instead of creating new ones.

Finally, the CMP qualifies Texas for "deep water port" status, so the state can now ask the federal government to approve an offshore crude oil shipping terminal.

The CCC's Role

The 11-member Coastal Coordination Council (CCC) was established under the authority of the CMP. In part it consists of the chief policy makers among state agencies with some jurisdiction over coastal resources and projects, with the addition of the Texas Water Development Board. Four CCC members are gubernatorial appointees representing various interests.

TNRCC Chairman Barry McBee, a member of the CCC, believes the council will expedite the implementation and coordination of the CMP.

"The council will open lines of communication among participating agencies, regulated industries with operations on the coast, and coastal residents," McBee said. "The CMP will enable the TNRCC to proceed with our very aggressive philosophy to protect the Texas Gulf Coast environment in a way that is consistent with sustainable economic development."

Federal approval of the Coastal Management Program hinged on the state's ability to demonstrate how the CMP might fit into the current regulatory scheme, according to Jon K. Fisher of the Texas Chemical Council.

"We have effective regulatory programs in place in this state. We just had to demonstrate we were willing to coordinate them," Fisher said.

The CMP follows existing regulatory programs without being anti-business, Fisher continued. "We operate on the assumption that you can advance environmental protection without hurting either people or business."

CMP funding opportunities come at a time when coastal restoration projects and management plans are much needed. In anticipation of federal approval for fiscal year 1997, the CCC applied for and received $800,000 in pro-rated grants to help local authorities implement the program. Those funds have bolstered local management efforts to address shoreline access, coastal erosion, wetlands protection, and water supply and quality. The council is already in its second cycle of grant funding and will receive approximately $1.9 million for additional projects in fiscal year 1998.

Galveston Bay Estuary Program: Beacon of Hope on Industrialized Coast

The Galveston Bay Estuary Program (GBEP) grew out of a need to protect and sustain the area's natural environment in a manner consistent with a prospering economy.

Partly because of the heightened awareness the public education program has promoted among the people who depend on the bay for their livelihoods, Galveston Bay has gone from an estuarine environment in decline to a stable state of environmental and economic health.

The program now comes under the broad framework of the Texas Coastal Management Plan (CMP), but with its major protections and conservation projects intact. GBEP's focus is on restoring and conserving the life of the bay through education and awareness programs, and establishing partnerships to accomplish the group's goals.

Each year, GBEP receives $750,000 from the Texas General Land Office for operations and $300,000 from EPA for specific conservation projects. The TNRCC is program administrator.

"The GBEP has been a reminder that we are all stewards of our environment," said TNRCC Commissioner John Baker. "With the new coastal program in effect, we enter a new era of protection and conservation on the Texas Gulf Coast."

A Price on Breathing

Weighing Potential Benefits Against Economic

continued from page 1

know the benefits: The standards will bring Texas cleaner air and better protection of public health."

"These proposals have received far more extensive scientific and public review than any previous public health standards," Saginaw said.

Levels of Health Protectiveness Disputed

Despite EPA's official position, a common concern in the regulated community is what appears to be a lack of scientific consensus on an appropriate standard for protecting public health. A majority of the EPA's own Clean Air Scientific Advisory Committee (CASAC) recommended a range of levels (0.08 ppm to 0.09 ppm) for ozone between which "no bright line" of health protectiveness can be drawn.

There is no toxicological study that shows greater health protection will be achieved with the proposed 0.08 ppm standard than with a 0.09 ppm standard, observes TNRCC Chairman Barry McBee. "There does not seem to be an appreciable difference," he said, "and so responsible public policy demands that EPA consider costs as well as benefits in setting standards.

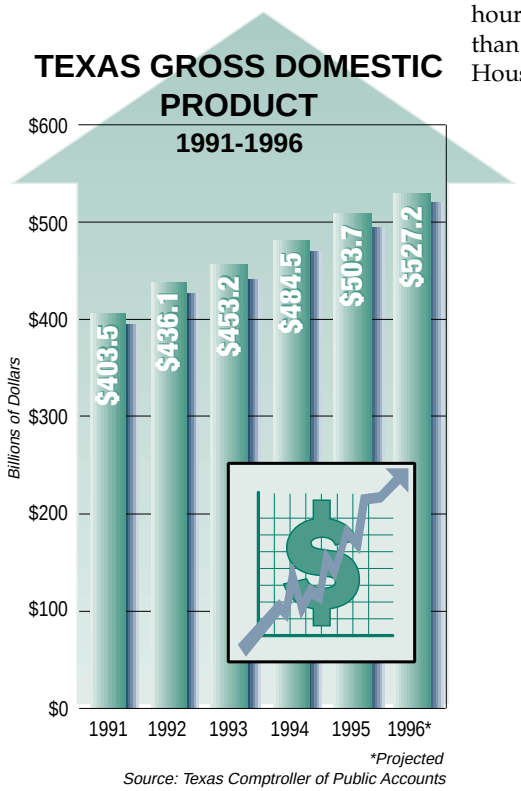
"If more research is needed on ozone, we should do that now instead of prematurely altering a standard which is working in Texas," McBee continued.

According to Saginaw, our current standard when averaged over an eight-hour period is about 0.09 ppm. To be more protective of the public health, EPA proposes to set the standard at 0.08 ppm averaged over an eight-hour period. "Maintaining the status quo would not meet our goal for achieving an acceptable level of health protectiveness," she said.

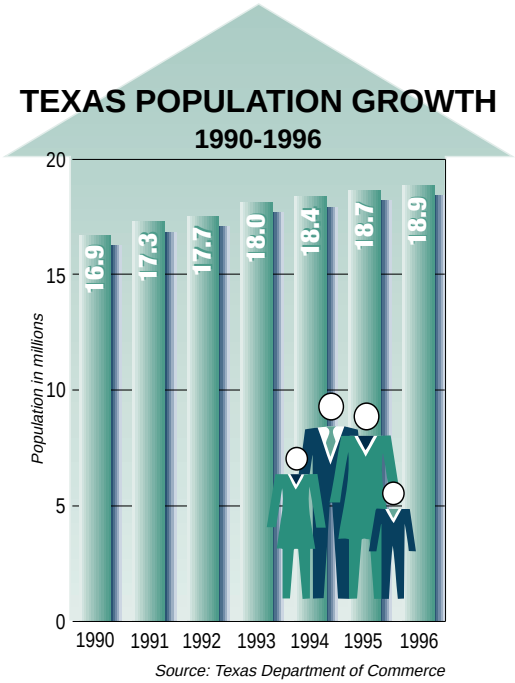
Still, the issue remains ambiguous. TNRCC Commissioner Ralph Marquez notes that a recent study sponsored by EPA has increased the uncertainty about replacing the one-hour ozone standard with an eight-hour standard. The study suggests that the one-hour standard would be more protective than the eight-hour standard in two cities, Houston and Los Angeles.

PROGRESS UNDER CURRENT OZONE STANDARD

A statewide decline in the number of ozone exceedance days each year since 1988 demonstrates that EPA's current ozone standard is working in Texas communities. The decline is more noteworthy in light of the concurrent steady increases in the Texas gross domestic product and population, which create additional stresses on air quality.



*Projected
Source: Texas Comptroller of Public Accounts



Source: Texas Department of Commerce

SPACE CONSEQUENCES

"This has contributed to the atmosphere of confusion which already exists about this whole process," Marquez said. "It clearly points out that we do not know as much as we think we do about ozone. Surprisingly, we don't even know enough about the two cities with the worst ozone problems in the country."

The uncertainties have led a number of groups to call for keeping the current standards while research continues.

Floyd Bowen, chairman of the Texas NAAQS Working Group, a consortium of industry groups and corporations such as Exxon and General Motors, advocates maintaining the current standards because of the high cost and the potential economic impact on millions of people.

"The costs of air pollution controls designed to achieve the proposed standards would dwarf the marginal ozone benefits, while whatever benefits might come from the new particulate standards are too uncertain to compare with the huge costs," Bowen said.

Call for a Complete Cost-Benefit Analysis

As part of its rule-making process, the EPA has made an effort to determine the costs and benefits of the air proposal. On top of the $50 billion annual cost of the Clean Air Act, the EPA estimates the new regulations would cost another $8 billion a year. EPA officials say, however, that the costs would be offset by stricter standards that they say would prolong the lives of 20,000 Americans every year and save from $51 billion to $112 billion in health costs (from factors such as lost worker days and reduced productivity).

The EPA acknowledges that the new standards will require a new influx of dollars and effort, but argues that the economic impact will not seriously constrain commerce.

Saginaw points out that nationwide, since 1970 when the Clean Air Act went into effect, the emissions of the six major air pollutants dropped 29 percent. Yet in the same time period, the country's population grew 28 percent, and the gross domestic product doubled.

"We have every reason to believe that the U.S. and Texas economies will continue to grow under the new air standards," Saginaw said.

The TNRCC and the regulated community, however, are concerned that the EPA proposals would more than double the number of areas in Texas that do not meet the federal air standard for ozone. The new standards would give Texas the most nonattainment areas in the country. The significance is that nonattainment status generally places a cap on economic development and growth.

Affected areas would rise from the current four (Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston, and El Paso) to nine, with the addition of Austin, Corpus Christi, Longview/Marshall/Tyler, San Antonio, and Victoria.

H. Dane Harris, president of the Texas Association of Business and Chambers of Commerce, voices another common concern about placing an additional burden on small businesses. He offered sample estimates compiled by the association for what annual statewide compliance with the new standard would cost small employers in Texas:

- $15.1 million for the 275 dry cleaners that use petroleum-based solvents.
- $200 million for the state's 5,000 gasoline stations.

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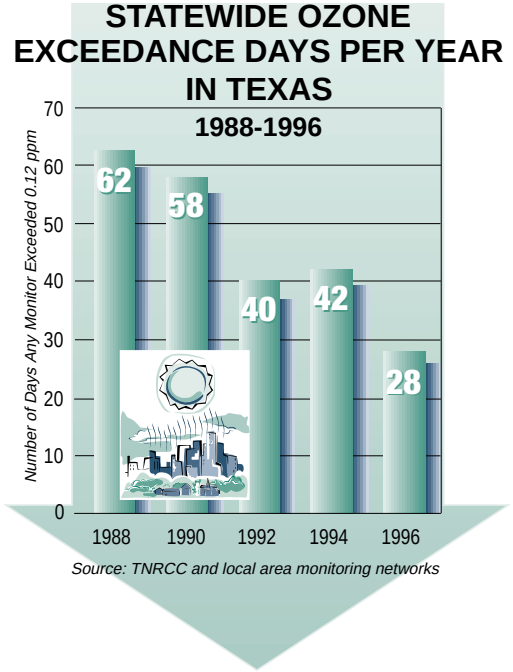


Source: TNRCC and local area monitoring networks

How Much do Particulates Matter?

If anything, EPA's proposed new standard for particulate matter is even more controversial than the new standard for ozone.

EPA claims the proposed new standard for PM2.5 would offer significant benefits for public health. The agency estimates that about 20,000 lives each year would be saved, especially among the elderly and those with existing heart and lung diseases.

The American Lung Association believes the delay in setting a PM2.5 standard will delay strategies it claims would avoid thousands of premature deaths and hundreds of thousands of hospital visits linked to fine particulates each year.

Nonetheless, a large group of state officials and industry representatives have protested that the new standard is based on too little PM2.5 monitoring data and inadequate research.

In a letter to EPA chief Carol Browner, the Western Governors Association urged the agency "to implement expeditiously the substantial research program called for by EPA's Clean Air Scientific Advisory Committee (CASAC) before establishing a new PM2.5 standard or revising the PM10 standard."

Although TNRCC Chairman Barry McBee acknowledges that there does appear to be growing evidence of long-term health effects from fine particulate matter, he points out that CASAC was not even close to a consensus on a standard.

McBee echoed the Governors Association, encouraging EPA "to speed up federal research efforts, and only after that research is concluded decide on a standard, if any."

CLEANING THE AIR

continued from page 9

- $56 million in increased production costs for 3,750 printers.

Problem of Ozone Transport

Herb Williams, TNRCC's director of air policy and regulations, notes that the proposed new air quality standards are complicated by another factor: ozone transport, the migration (through wind patterns) of ground-level ozone and ozone-causing chemicals. The problem is the focus of the Ozone Transport Assessment Group (OTAG), a partnership among the EPA, 37 member states, the Environmental Council of the States, and various industry and environmental groups. The goal of the partnership is to develop a consensus agreement for reducing ground-level ozone.

OTAG's efforts reflect the fact that ozone non-attainment areas must address ozone and ozone-causing chemicals inside and outside their boundaries.

"Texas is examining whether we should be exempt from at least some OTAG restrictions on emissions because our contribution to ozone levels in other states is so minimal," Williams said.

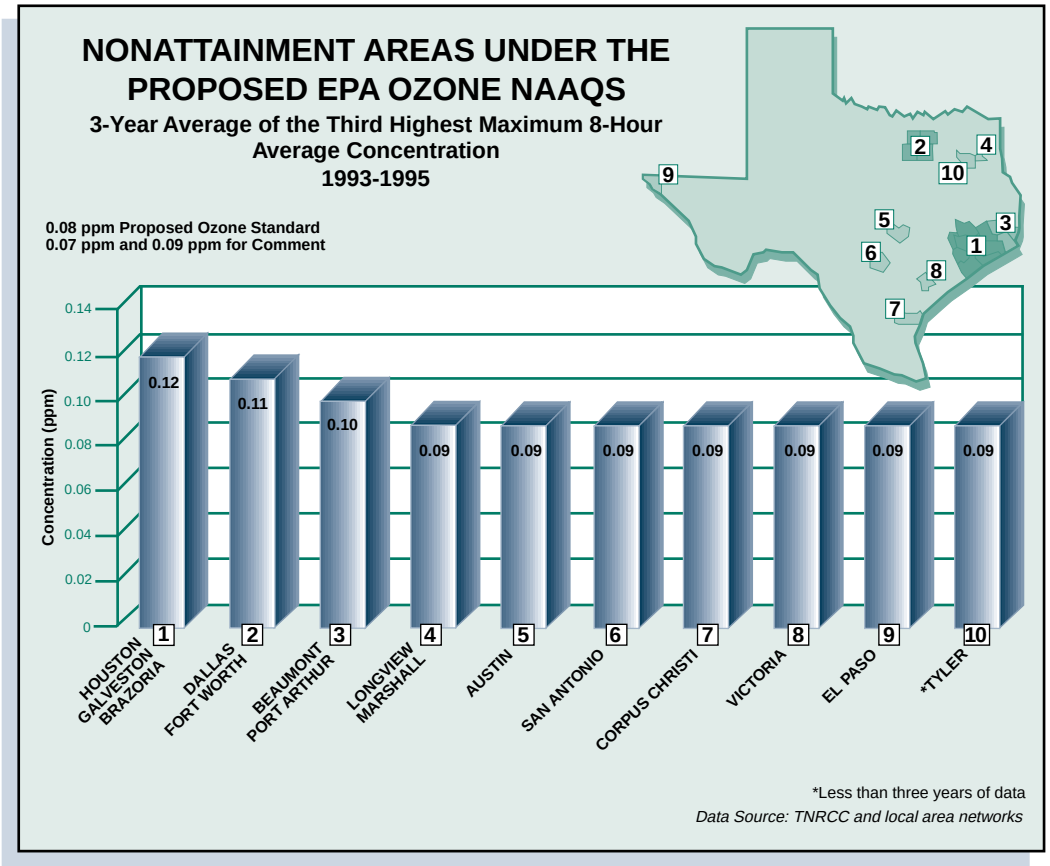
Nonetheless, because OTAG insists on placing restrictions on all 37 states, Texas would have to comply with both the new air standards as well as any OTAG requirements adopted by EPA.

The TNRCC Responds

Following consideration of comments from the public meetings, TNRCC commissioners submitted comments on the proposed NAAQS changes to EPA in March.

The commission has recommended that the NAAQS for ozone remain unchanged until the EPA produces sound, conclusive scientific studies that support a new standard. If EPA implements a new standard, the TNRCC recommends that the new ozone standard be 0.09 ppm or higher, averaged over eight hours. EPA's CASAC recommended a range from 0.08 ppm to 0.09 ppm. The 0.09 ppm level would protect public health and avoid the creation of new nonattainment areas within Texas. The commission also recommends that the EPA aggressively pursue research and not propose a standard for fine particulates until more is known about their effect on human health.

"It should not be too much to ask government—especially given the potential effects on families, business and industry and the staggering costs of regulations—to adopt standards that are both clear and based on sound science," said TNRCC Chairman Barry McBee.



EPA's proposed new ozone standard of 0.08 parts per million (ppm) would raise the number of nonattainment areas in Texas to at least nine, more than any other state. Insufficient data is available on Tyler, although it will likely be designated nonattainment with its neighboring cities of Longview and Marshall.

Many Texas firms go beyond compliance, seeking additional ways to protect human health and the environment. The companies featured here —Wood Works Plus and Phillips Petroleum — found innovative, cost-effective solutions to real problems.

Photo Courtesy: Phillips Petroleum Company

These Houston Chemical Complex employees were part of a team that worked with the TNRCC to reclassify a hazardous waste so it could be put to use for profit rather than require disposal at a cost.

Large businesses and corporations have also demonstrated interest in finding cost-effective solutions to environmental problems. In the past three years, 226 Texas industrial facilities received technical assistance from the TNRCC's Office of Pollution Prevention and Recycling. Participating facilities reduced wastewater generation by 315 million gallons a year, cut their hazardous waste generation by 35,000 tons, and saved $30 million.

As part of its continuing efforts to reduce, reuse, and recycle, Phillips Petroleum's Houston Chemical Complex recently asked the TNRCC for technical assistance in redesignating a co-product of the refining operation called isooctene. A clean-burning liquid that can be added to gasoline to enhance performance, isooctene has been classified as a hazardous waste for years. Despite its commercial value, the chemical had to be treated and disposed of according to strict regulations.

The TNRCC reclassified isooctene so it could be used as a high-quality transportation fuel-blending stock. The change means that Phillips Chemical Company every year will be able to convert 1.3 million pounds from waste to a commercial product. The company expects to realize combined sales revenue and reduced disposal costs of up to $300,000 a year from sale of the isooctene product.

Beyond Compliance

Management Strategies for the Environment

Scott Grigsby, who owns Wood Works Plus in Lewisville, a Dallas suburb, acknowledges that "It's tough in a small business making ends meet. It takes guts to let people in to inspect your place."

A year ago, Grigsby invited the TNRCC's Office of Small Business Assistance to his shop to help him bring his furniture finishing and refinishing business into compliance.

A TNRCC team helped the firm identify problem areas and provided solutions for how to manage hazardous materials.

Following their suggestions, Grigsby bought a machine to wash spray guns and set up a closed-loop rinsing system to cut the amount of methylene chloride going into city sewers.

The single most expensive purchase was a $3,000 thinner recycling system that Grigsby believes will eventually pay for itself.

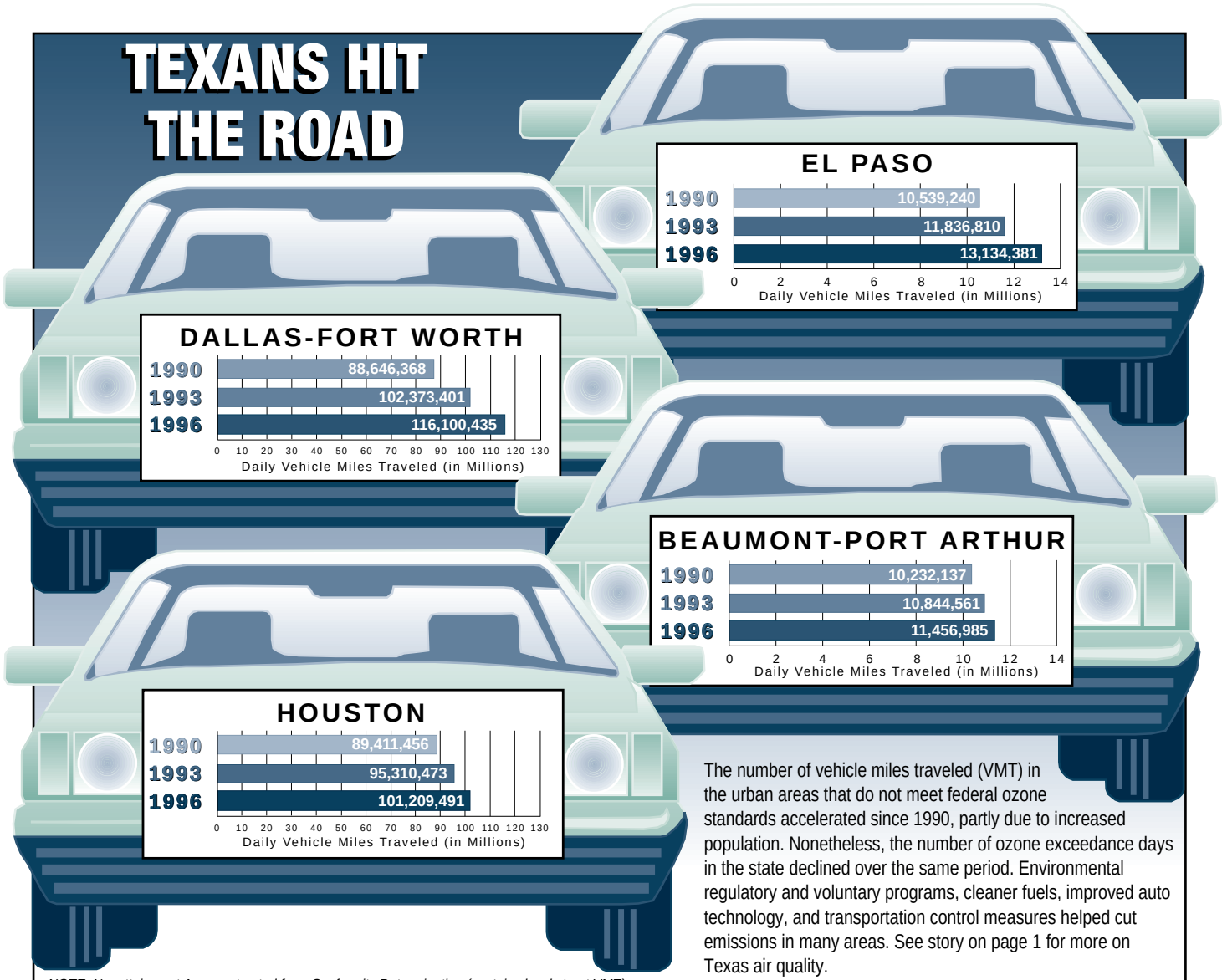
"We have spent about $10,000 to meet the standards," Grigsby said. "It's not an overnight fix, but it will help me stay in business."

Wood Works Plus is committed to improving the environment. The company goes beyond what is required with recycling and other projects. For example, employees flatten empty paint cans and send them to a recycling facility.

"We don't make money on the cans, but it keeps them out of the landfill," Grigsby said. "We do some of these things just because they are the right things to do."

Scott Grigsby, shown recycling thinner, believes his investment in such sound business practices will yield a good return for the Texas environment.

TEXANS HIT THE ROAD



The number of vehicle miles traveled (VMT) in the urban areas that do not meet federal ozone standards accelerated since 1990, partly due to increased population. Nonetheless, the number of ozone exceedance days in the state declined over the same period. Environmental regulatory and voluntary programs, cleaner fuels, improved auto technology, and transportation control measures helped cut emissions in many areas. See story on page 1 for more on Texas air quality.

NOTE: Nonattainment Areas extracted from Conformity Determination (contains local street VMT)

Natural OUTLOOK
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

PD-020/97-2

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